Methods for producing cloned non-human animals by nuclear transfer and by combinations of nuclear transfer and ovum transfer, employing near-infrared visualization of the recipient cell nucleus are described herein. Transgenic, knock-out, and knock-in avians are provided. Methods for producing eggs which contain exogenous proteins are encompassed by the present invention. Thus, the instant invention satisfies the need for an effective route to the generation of cloned avians.

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